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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/063,401

04/18/2002

Thomas Gary O'Keeffe

GEN-0297

7872

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02/01/2005

CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

DONOVAN, LINCOLN D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 02/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/063,401

Applicant(s)

O'KEEFFE ET AL.

Examiner

Lincoln Donovan

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11-24-04.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5, 8, 16, 17, 20-22, 25 and 33-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6, 7, 9-15, 18, 19, 23, 24, 26-32, 35 and 37-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>07-18-02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 4, 6-7, 9, 18-19, 23-24, 26 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Mrenna et al. [US 4,719,438]

Mrenna et al. disclose a magnetic trip unit [figure 2] for actuating a latch [155], to trip a circuit breaker upon an overcurrent condition, the magnetic trip unit comprising:

- a first electrically conductive strap [69] configured to conduct an electrical current;
- a first magnetic u-shaped magnetic yoke [103, figure 10] proximate the conductive strap;
- a first armature [105] pivotally disposed proximate to the first magnetic yoke in operable communication with the latching mechanism;
- adjustment means [119, 99] for setting the distance between the yoke and armature, wherein the reluctance is adjusted to prevent saturation of the magnetic flux when current through the strap is a first number time the rated current of the circuit breaker and the reluctance is adjusted to promote saturation of the magnetic flux when the current through the strap is a second number time the rated current of the circuit breaker and the first number is

greater than the second number and the reluctance allows increases in the magnetic flux across the magnetic path without saturating when the current through the strap is the first number time the rated current and the magnetic flux approaches saturation as the current through the strap increases towards the second number time the rated current.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-14, 27-31 and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mrenna et al. in view of Montague et al. [US 5,670,922] or Daehler et al. [US 2003/0174033].

Regarding claims 10, 27 and 39, Mrenna et al. disclose the instant claimed invention except for the yoke further including.

Montague et al. and Daehler et al. both disclose a u-shaped yoke piece [figures 14 and 2, respectively] having a pair of flanges extending from opposite ends of the u-shaped bight and a gap between the flanges to the armature.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the yoke design of Montague et al. or Daehler et al. for the yoke of Mrenna et al., for the purpose of increasing magnetic attraction upon saturation.

The specific size of the gap between the armature and yoke and the gap between the flanges and their respective relationship relative to each other would have been an obvious design consideration based on the desired sensitivity and rating of the breaker.

Claims 15 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mrenna et al. in view of Arnold et al. [US 5,381,120].

Mrenna et al. disclose the instant claimed invention except for the armature being attached to the conductive strap.

Arnold et al. disclose an armature member [42] mounted on a conductive strap [figure 5b] of a circuit breaker.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the armature mounting design of Arnold et al. for the armature of Mrenna et al., for the purpose of supporting the armature member.

Response to Arguments

Applicant's arguments filed 11-24-04 have been fully considered but they are not persuasive.

Applicant argues:

- [1]: The trip unit of Mrenna et al. necessitates the use of additional components;
- [2]: The calibration mechanism of Mrenna et al. is more complicated to use;
- [3]: The trip unit of Mrenna et al. generates an attractive force between the armature and yoke teaching away from applicant's claimed invention; and

[4] Mrenna et al. does not teach the claimed spacing relationship relative to the magnetic flux.

Examiner disagrees:

Regarding [1]-[2]: Applicant's design does not preclude the use of additional components or claim any structure/design to simplify the calibration of the trip unit.

Regarding [3]: Applicant merely claims that the adjustment mechanism adjusts the magnetic flux between the yoke and armature. As acknowledged by applicant, see arguments, page 14, the adjustment means of Mrenna et al. perform the same function.

Regarding [4]: Applicant merely claims that the "reluctance is adjusted to prevent saturation of said magnetic flux when said current through the strap is (X) times a rated current...said current through the strap is a second number (Y) times..." Applicant has not specific defined X and Y. As claimed, the adjustment means of Mrenna et al. can accomplish the same adjustment characteristics.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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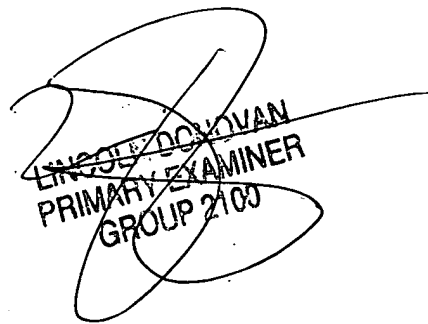
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lincoln Donovan whose telephone number is 571-272-1988. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Idd


LINCOLN DONOVAN
PRIMARY EXAMINER
GROUP 2100